

SEQUENCE LISTING

<110> Busfield et al.

<120> GLYCOPROTEIN VI AND USES THEREOF

<130> 7853-234

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<150> 09/610,118

<151> 2000-06-30

<150> 09/503,387

<151> 2000-02-14

<150> 09/454,824

<151> 1999-12-06

<150> 09/345,468

<151> 1999-06-30

<160> 78

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 2047

<212> DNA

<213> Homo sapiens

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tacagggatg	aatatgtcaa	ttaccctgat	ttgatcatag	cacgttggtat	acatgtactg	1920
caatattgct	gtccacccca	taaatatgta	caattatgta	tacattttta	aaatcataaa	1980
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gagaaca						2047

<210> 2
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 <212> DNA
 <213> Homo sapiens

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gagaagccag	tgaccctccg	gtgccaggga	cctccggggc	tggaacctga	ccgcctggag	180
aagctgagtt	ccagcaggta	ccaggatcag	gcagtcctct	tcattccggc	catgaagaga	240
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gaccagctgg	agctcgttgc	cacgggagtt	tttgccaaac	cctcgtcttc	agcccagccc	360
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gaccaatttg	ctctgtacaa	ggaaggggac	cctgcgcctc	acaagaatcc	cgagagatgg	480
taccgggcta	gtttcccat	catcacggtg	accgccgccc	acagcggaac	ctaccgatgc	540
tacagcttct	ccagcaggga	cccatacctg	tggtcggccc	ccagcgaccc	cctggagctt	600
gtggtcacag	gaacctctgt	gacccccagc	cggttaccaa	cagaaccacc	ttcctcggta	660
gcagaattct	cagaagccac	cgctgaactg	accgtctcat	tcacaaacaa	agtcttcaca	720
actgagactt	ctaggagtat	caccaccagt	ccaaaggagt	cagactctcc	agctggtcct	780
gcccgcaggt	actacaccaa	gggcaacctg	gtccggatat	gcctcggggc	tgtgatccta	840
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aggggcaggg	ctgtgcagag	gccgcttccg	ccctgcccgc	ccctcccgca	gacccggaaa	960
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<210> 3
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 <212> PRT
 <213> Homo sapiens

<400> 3															
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Leu	Pro	Ser	Ser	Leu	Val	Pro	Leu	Glu	Lys	Pro	Val	Thr	Leu	Arg	Cys
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Gln	Gly	Pro	Pro	Gly	Val	Asp	Leu	Tyr	Arg	Leu	Glu	Lys	Leu	Ser	Ser
	50					55				60					
Ser	Arg	Tyr	Gln	Asp	Gln	Ala	Val	Leu	Phe	Ile	Pro	Ala	Met	Lys	Arg
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Ser	Leu	Ala	Gly	Arg	Tyr	Arg	Cys	Ser	Tyr	Gln	Asn	Gly	Ser	Leu	Trp
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Ser	Leu	Pro	Ser	Asp	Gln	Leu	Glu	Leu	Val	Ala	Thr	Gly	Val	Phe	Ala
		100						105					110		
Lys	Pro	Ser	Leu	Ser	Ala	Gln	Pro	Gly	Pro	Ala	Val	Ser	Ser	Gly	Gly
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Asp	Val	Thr	Leu	Gln	Cys	Gln	Thr	Arg	Tyr	Gly	Phe	Asp	Gln	Phe	Ala	
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Leu	Tyr	Lys	Glu	Gly	Asp	Pro	Ala	Pro	Tyr	Lys	Asn	Pro	Glu	Arg	Trp	
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Tyr	Arg	Ala	Ser	Phe	Pro	Ile	Ile	Thr	Val	Thr	Ala	Ala	His	Ser	Gly	
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Thr	Tyr	Arg	Cys	Tyr	Ser	Phe	Ser	Ser	Arg	Asp	Pro	Tyr	Leu	Trp	Ser	
			180					185					190			
Ala	Pro	Ser	Asp	Pro	Leu	Glu	Leu	Val	Val	Thr	Gly	Thr	Ser	Val	Thr	
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Pro	Ser	Arg	Leu	Pro	Thr	Glu	Pro	Pro	Ser	Ser	Val	Ala	Glu	Phe	Ser	
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Glu	Ala	Thr	Ala	Glu	Leu	Thr	Val	Ser	Phe	Thr	Asn	Lys	Val	Phe	Thr	
225					230					235					240	
Thr	Glu	Thr	Ser	Arg	Ser	Ile	Thr	Thr	Ser	Pro	Lys	Glu	Ser	Asp	Ser	
				245					250					255		
Pro	Ala	Gly	Pro	Ala	Arg	Gln	Tyr	Tyr	Thr	Lys	Gly	Asn	Leu	Val	Arg	
			260					265					270			
Ile	Cys	Leu	Gly	Ala	Val	Ile	Leu	Ile	Ile	Leu	Ala	Gly	Phe	Leu	Ala	
		275					280					285				
Glu	Asp	Trp	His	Ser	Arg	Arg	Lys	Arg	Leu	Arg	His	Arg	Gly	Arg	Ala	
		290				295					300					
Val	Gln	Arg	Pro	Leu	Pro	Pro	Leu	Pro	Pro	Leu	Pro	Gln	Thr	Arg	Lys	
305					310					315					320	
Ser	His	Gly	Gly	Gln	Asp	Gly	Gly	Arg	Gln	Asp	Val	His	Ser	Arg	Gly	
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Leu Cys Ser

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 <213> Homo sapiens

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 Arg Val Pro Ala
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<210> 5
 <211> 319
 <212> PRT
 <213> Homo sapiens

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 Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser Ser Arg Tyr Gln
 35 40 45
 Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg Ser Leu Ala Gly
 50 55 60
 Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp Ser Leu Pro Ser
 65 70 75 80
 Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala Lys Pro Ser Leu
 85 90 95

Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly Asp Val Thr Leu
 100 105 110
 Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala Leu Tyr Lys Glu
 115 120 125
 Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp Tyr Arg Ala Ser
 130 135 140
 Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
 145 150 155 160
 Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser Ala Pro Ser Asp
 165 170 175
 Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr Pro Ser Arg Leu
 180 185 190
 Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser Glu Ala Thr Ala
 195 200 205
 Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr Thr Glu Thr Ser
 210 215 220
 Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser Pro Ala Gly Pro
 225 230 235 240
 Ala Arg Gln Tyr Tyr Thr Lys Gly Asn Leu Val Arg Ile Cys Leu Gly
 245 250 255
 Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala Glu Asp Trp His
 260 265 270
 Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala Val Gln Arg Pro
 275 280 285
 Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys Ser His Gly Gly
 290 295 300
 Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly Leu Cys Ser
 305 310 315

<210> 6
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 <212> PRT
 <213> Homo sapiens

<400> 6
 Cys Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser
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 Ser Ser Arg Tyr Gln Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys
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 Arg Ser Leu Ala Gly Arg Tyr Arg Cys
 35 40

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 <211> 47
 <212> PRT
 <213> Homo sapiens

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 Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp Tyr Arg Ala Ser Phe
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 Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
 35 40 45

<210> 8
 <211> 19
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<213> Homo sapiens

<400> 8

Leu Val Arg Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly
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Phe Leu Ala

<210> 9

<211> 249

<212> PRT

<213> Homo sapiens

<400> 9

Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala Leu Pro Ser Ser
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20 25 30
Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser Ser Arg Tyr Gln
35 40 45
Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg Ser Leu Ala Gly
50 55 60
Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp Ser Leu Pro Ser
65 70 75 80
Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala Lys Pro Ser Leu
85 90 95
Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly Asp Val Thr Leu
100 105 110
Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala Leu Tyr Lys Glu
115 120 125
Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp Tyr Arg Ala Ser
130 135 140
Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
145 150 155 160
Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser Ala Pro Ser Asp
165 170 175
Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr Pro Ser Arg Leu
180 185 190
Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser Glu Ala Thr Ala
195 200 205
Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr Thr Glu Thr Ser
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Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser Pro Ala Gly Pro
225 230 235 240
Ala Arg Gln Tyr Tyr Thr Lys Gly Asn
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<211> 51

<212> PRT

<213> Homo sapiens

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Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
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Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
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Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly
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 Leu Cys Ser
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<210> 11
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 <213> Homo sapiens

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<210> 12
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 <212> PRT
 <213> Homo sapiens

<400> 12
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Ala	Glu	Pro	Gly	Ser	Val	Ile	Ser	Trp	Gly	Ser	Pro	Val	Thr	Ile	Trp
		35					40					45			
Cys	Gln	Gly	Ser	Leu	Glu	Ala	Gln	Glu	Tyr	Arg	Leu	Asp	Lys	Glu	Gly
	50					55					60				
Ser	Pro	Glu	Pro	Leu	Asp	Arg	Asn	Asn	Pro	Leu	Glu	Pro	Lys	Asn	Lys
65					70					75				80	
Ala	Arg	Phe	Ser	Ile	Pro	Ser	Met	Thr	Glu	His	His	Ala	Gly	Arg	Tyr
			85						90					95	
Arg	Cys	His	Tyr	Tyr	Ser	Ser	Ala	Gly	Trp	Ser	Glu	Pro	Ser	Asp	Pro
			100					105					110		
Leu	Glu	Leu	Val	Met	Thr	Gly	Phe	Tyr	Asn	Lys	Pro	Thr	Leu	Ser	Ala
	115						120					125			
Leu	Pro	Ser	Pro	Val	Val	Ala	Ser	Gly	Gly	Asn	Met	Thr	Leu	Arg	Cys
	130					135					140				
Gly	Ser	Gln	Lys	Gly	Tyr	His	His	Phe	Val	Leu	Met	Lys	Glu	Gly	Glu
145					150					155				160	
His	Gln	Leu	Pro	Arg	Thr	Leu	Asp	Ser	Gln	Gln	Leu	His	Ser	Gly	Gly
				165					170					175	
Phe	Gln	Ala	Leu	Phe	Pro	Val	Gly	Pro	Val	Asn	Pro	Ser	His	Arg	Trp
		180						185					190		
Arg	Phe	Thr	Cys	Tyr	Tyr	Tyr	Tyr	Met	Asn	Thr	Pro	Gln	Val	Trp	Ser
	195						200					205			
His	Pro	Ser	Asp	Pro	Leu	Glu	Ile	Leu	Pro	Ser	Gly	Val	Ser	Arg	Lys
	210					215					220				
Pro	Ser	Leu	Leu	Thr	Leu	Gln	Gly	Pro	Val	Leu	Ala	Pro	Gly	Gln	Ser
225					230					235				240	
Leu	Thr	Leu	Gln	Cys	Gly	Ser	Asp	Val	Gly	Tyr	Asp	Arg	Phe	Val	Leu
			245						250					255	
Tyr	Lys	Glu	Gly	Glu	Arg	Asp	Phe	Leu	Gln	Arg	Pro	Gly	Gln	Gln	Pro
		260					265						270		
Gln	Ala	Gly	Leu	Ser	Gln	Ala	Asn	Phe	Thr	Leu	Gly	Pro	Val	Ser	Pro
	275						280					285			
Ser	His	Gly	Gly	Gln	Tyr	Arg	Cys	Tyr	Gly	Ala	His	Asn	Leu	Ser	Ser
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Glu	Trp	Ser	Ala	Pro	Ser	Asp	Pro	Leu	Asn	Ile	Leu	Met	Ala	Gly	Gln
305					310				315					320	
Ile	Tyr	Asp	Thr	Val	Ser	Leu	Ser	Ala	Gln	Pro	Gly	Pro	Thr	Val	Ala
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Ser	Gly	Glu	Asn	Val	Thr	Leu	Leu	Cys	Gln	Ser	Trp	Trp	Gln	Phe	Asp
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Thr	Phe	Leu	Leu	Thr	Lys	Glu	Gly	Ala	Ala	His	Pro	Pro	Leu	Arg	Leu
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Arg	Ser	Met	Tyr	Gly	Ala	His	Lys	Tyr	Gln	Ala	Glu	Phe	Pro	Met	Ser
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Pro	Val	Thr	Ser	Ala	His	Ala	Gly	Thr	Tyr	Arg	Cys	Tyr	Gly	Ser	Tyr
385					390					395				400	
Ser	Ser	Asn	Pro	His	Leu	Leu	Ser	Phe	Pro	Ser	Glu	Pro	Leu	Glu	Leu
			405						410					415	
Met	Val	Ser	Gly	His	Ser	Gly	Gly	Ser	Ser	Leu	Pro	Pro	Thr	Gly	Pro
		420						425					430		
Pro	Ser	Thr	Pro	Gly	Leu	Gly	Arg	Tyr	Leu	Glu	Val	Leu	Ile	Gly	Val
	435						440					445			
Ser	Val	Ala	Phe	Val	Leu	Leu	Leu	Phe	Leu	Leu	Leu	Phe	Leu	Leu	Leu
	450					455					460				
Arg	Arg	Gln	Arg	His	Ser	Lys	His	Arg	Thr	Ser	Asp	Gln	Arg	Lys	Thr
465					470					475				480	

Asp Phe Gln Arg Pro Ala Gly Ala Ala Glu Thr Glu Pro Lys Asp Arg
 485 490 495
 Gly Leu Leu Arg Arg Ser Ser Pro Ala Ala Asp Val Gln Glu Asn
 500 505 510
 Leu Tyr Ala Val Lys Asp Thr Gln Ser Glu Asp Arg Val Glu Leu
 515 520 525
 Asp Ser Gln Ser Pro His Asp Glu Asp Pro Gln Ala Val Thr Tyr Ala
 530 535 540
 Pro Val Lys His Ser Ser Pro Arg Arg Glu Met Ala Ser Pro Pro Ser
 545 550 555 560
 Ser Leu Ser Gly Glu Phe Leu Asp Thr Lys Asp Arg Gln Val Glu Glu
 565 570 575
 Asp Arg Gln Met Asp Thr Glu Ala Ala Ala Ser Glu Ala Ser Gln Asp
 580 585 590
 Val Thr Tyr Ala Gln Leu His Ser Leu Thr Leu Arg Arg Lys Ala Thr
 595 600 605
 Glu Pro Pro Pro Ser Gln Glu Gly Glu Pro Pro Ala Glu Pro Ser Ile
 610 615 620
 Tyr Ala Thr Leu Ala Ile His
 625 630

<210> 13
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 <212> PRT
 <213> Homo sapiens

<400> 13
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 Tyr Arg Leu Glu Lys Leu Lys Pro Glu Lys Tyr Glu Asp Gln Asp Phe
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 35 40 45
 Ser Tyr
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<210> 14
 <211> 1163
 <212> DNA
 <213> Mus musculus

<400> 14
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 ccatgtctcc agcctcacc ctttcttct gtattgggct gtgtgtactg caagtgatcc 120
 aaacacagag tggcccactc cccaagcctt ccctccaggc tcagcccagt tccctggtag 180
 ccctgggtca gtcagttatt ctgaggtgcc agggacctcc agatgtggat ttatatcgcc 240
 tggagaaact gaaaccggag aagtatgaag atcaagactt tctcttcatt ccaaccatgg 300
 aaagaagtaa tgctggacgg tatcgatgct cttatcagaa tgggagtcac tgggtctctcc 360
 caagtgacca gcttgagcta attgctacag gtgtgtatgc taaaccctca ctctcagctc 420
 atcccagctc agcagtcctt caaggcaggg atgtgactct gaagtgccag agcccatata 480
 gttttgatga attcggttcta tacaaagaag gggatactgg gccttataag agacctgaga 540
 aatggtaccg ggccaatttc cccatcatca cagtactgct tgctcacagt gggacgtacc 600
 ggtgttacag cttctccagc tcatctccat acctgtggct agccccgagt gaccctctag 660
 tgcttggtgt tactggactc tctgccactc ccagccaggg acccacggaa gaatcatttc 720
 ctgtgacaga atcctccagg agaccttcca tcttaccac aaacaaaata tctacaactg 780
 aaaagcctat gaatatcact gcctctccag aggggctgag ccctccaatt ggttttgctc 840
 atcagcacta tgccaagggg aatctggtcc ggatatgcct tgggtgccacg attataataa 900
 ttttggtggg gcttctagca gaggattggc acagtcggaa gaaatgcctg caacacagga 960

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agcagaggga	ttgaccagac	atccatgcac	aacctatggac	atcaccacta	gagccacaga	1080
catggacata	ctcaagagtg	gggagggtat	ataaaaaaat	gagtgtggag	aataaatgca	1140
gagccaacaa	ggtgaaaaaa	aaa				1163

<210> 15
 <211> 939
 <212> DNA
 <213> Mus musculus

<400> 15						
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ctgggtcagt	cagttattct	gaggtgccag	ggacctccag	atgtggattt	atatcgcttg	180
gagaaactga	aaccggagaa	gtatgaagat	caagactttc	tcttcattcc	aacctgggaa	240
agaagtaatg	ctggacggta	tcgatgctct	tatcagaatg	ggagtcaactg	gtctctccca	300
agtgaccagc	ttgagctaat	tgctacaggt	gtgtatgcta	aacctcact	ctcagctcat	360
cccagctcag	cagtcctca	aggcagggat	gtgactctga	agtgccagag	cccatacagt	420
tttgatgaat	tcgttctata	caaagaaggg	gatactgggc	cttataagag	acctgagaaa	480
tggtaccggg	ccaatttccc	catcatcaca	gtgactgctg	ctcacagtgg	gacgtaccgg	540
tgttacagct	tctccagctc	atctccatac	ctgtggtcag	ccccgagtga	ccctctagt	600
cttgtgggta	ctggactctc	tgccactccc	agccaggtac	ccacggaaga	atcatttcct	660
gtgacagaat	cctccaggag	accttccatc	ttaccacaaa	acaaaatata	tacaactgaa	720
aagcctatga	atatcactgc	ctctccagag	gggctgagcc	ctccaattgg	tttggtcat	780
cagcactatg	ccaaggggaa	tctgggtccg	atatgccttg	gtgccacgat	tataataatt	840
ttgttggggc	ttctagcaga	ggattggcac	agtcggaaga	aatgcctgca	acacaggatg	900
agagctttgc	aaaggccact	accaccctc	ccactggcc			939

<210> 16
 <211> 313
 <212> PRT
 <213> Mus musculus

<400> 16															
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Gln	Val	Ile	Gln	Thr	Gln	Ser	Gly	Pro	Leu	Pro	Lys	Pro	Ser	Leu	Gln
			20					25					30		
Ala	Gln	Pro	Ser	Ser	Leu	Val	Pro	Leu	Gly	Gln	Ser	Val	Ile	Leu	Arg
		35					40					45			
Cys	Gln	Gly	Pro	Pro	Asp	Val	Asp	Leu	Tyr	Arg	Leu	Glu	Lys	Leu	Lys
	50					55					60				
Pro	Glu	Lys	Tyr	Glu	Asp	Gln	Asp	Phe	Leu	Phe	Ile	Pro	Thr	Met	Glu
65					70					75					80
Arg	Ser	Asn	Ala	Gly	Arg	Tyr	Arg	Cys	Ser	Tyr	Gln	Asn	Gly	Ser	His
			85					90						95	
Trp	Ser	Leu	Pro	Ser	Asp	Gln	Leu	Glu	Leu	Ile	Ala	Thr	Gly	Val	Tyr
			100					105					110		
Ala	Lys	Pro	Ser	Leu	Ser	Ala	His	Pro	Ser	Ser	Ala	Val	Pro	Gln	Gly
		115					120					125			
Arg	Asp	Val	Thr	Leu	Lys	Cys	Gln	Ser	Pro	Tyr	Ser	Phe	Asp	Glu	Phe
	130					135					140				
Val	Leu	Tyr	Lys	Glu	Gly	Asp	Thr	Gly	Pro	Tyr	Lys	Arg	Pro	Glu	Lys
145					150					155					160
Trp	Tyr	Arg	Ala	Asn	Phe	Pro	Ile	Ile	Thr	Val	Thr	Ala	Ala	His	Ser
				165				170						175	
Gly	Thr	Tyr	Arg	Cys	Tyr	Ser	Phe	Ser	Ser	Ser	Ser	Pro	Tyr	Leu	Trp
			180					185					190		

Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
195 200 205
Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
210 215 220
Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
225 230 235 240
Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
245 250 255
Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys
260 265 270
Leu Gly Ala Thr Ile Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp
275 280 285
Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln
290 295 300
Arg Pro Leu Pro Pro Leu Pro Leu Ala
305 310

<210> 17
<211> 21
<212> PRT
<213> Mus musculus

<400> 17
Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu
1 5 10 15
Gln Val Ile Gln Thr
20

<210> 18
<211> 292
<212> PRT
<213> Mus musculus

<400> 18
Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala Gln Pro Ser Ser
1 5 10 15
Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg Cys Gln Gly Pro Pro
20 25 30
Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys Pro Glu Lys Tyr Glu
35 40 45
Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu Arg Ser Asn Ala Gly
50 55 60
Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His Trp Ser Leu Pro Ser
65 70 75 80
Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr Ala Lys Pro Ser Leu
85 90 95
Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly Arg Asp Val Thr Leu
100 105 110
Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe Val Leu Tyr Lys Glu
115 120 125
Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys Trp Tyr Arg Ala Asn
130 135 140
Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
145 150 155 160
Tyr Ser Phe Ser Ser Ser Ser Pro Tyr Leu Trp Ser Ala Pro Ser Asp
165 170 175
Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala Thr Pro Ser Gln Val
180 185 190

[illegible]

<211> 267

<213> Mus musculus

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			20					25					30		
Ala	Gln	Pro	Ser	Ser	Leu	Val	Pro	Leu	Gly	Gln	Ser	Val	Ile	Leu	Arg
		35					40					45			
Cys	Gln	Gly	Pro	Pro	Asp	Val	Asp	Leu	Tyr	Arg	Leu	Glu	Lys	Leu	Lys
	50					55				60					
Pro	Glu	Lys	Tyr	Glu	Asp	Gln	Asp	Phe	Leu	Phe	Ile	Pro	Thr	Met	Glu
65					70					75					80
Arg	Ser	Asn	Ala	Gly	Arg	Tyr	Arg	Cys	Ser	Tyr	Gln	Asn	Gly	Ser	His
				85					90					95	
Trp	Ser	Leu	Pro	Ser	Asp	Gln	Leu	Glu	Leu	Ile	Ala	Thr	Gly	Val	Tyr
			100					105					110		
Ala	Lys	Pro	Ser	Leu	Ser	Ala	His	Pro	Ser	Ser	Ala	Val	Pro	Gln	Gly
		115					120					125			
Arg	Asp	Val	Thr	Leu	Lys	Cys	Gln	Ser	Pro	Tyr	Ser	Phe	Asp	Glu	Phe
	130					135					140				
Val	Leu	Tyr	Lys	Glu	Gly	Asp	Thr	Gly	Pro	Tyr	Lys	Arg	Pro	Glu	Lys
145					150					155				160	
Trp	Tyr	Arg	Ala	Asn	Phe	Pro	Ile	Ile	Thr	Val	Thr	Ala	Ala	His	Ser
				165					170					175	
Gly	Thr	Tyr	Arg	Cys	Tyr	Ser	Phe	Ser	Ser	Ser	Ser	Pro	Tyr	Leu	Trp
			180					185					190		
Ser	Ala	Pro	Ser	Asp	Pro	Leu	Val	Leu	Val	Val	Thr	Gly	Leu	Ser	Ala
		195					200					205			
Thr	Pro	Ser	Gln	Val	Pro	Thr	Glu	Glu	Ser	Phe	Pro	Val	Thr	Glu	Ser
	210					215					220				
Ser	Arg	Arg	Pro	Ser	Ile	Leu	Pro	Thr	Asn	Lys	Ile	Ser	Thr	Thr	Glu
225					230					235					240
Lys	Pro	Met	Asn	Ile	Thr	Ala	Ser	Pro	Glu	Gly	Leu	Ser	Pro	Pro	Ile
				245					250					255	
Gly	Phe	Ala	His	Gln	His	Tyr	Ala	Lys	Gly	Asn					
			260					265							

<211> 19

<212> PRT
<213> Mus musculus

<400> 20
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1 5 10 15
Leu Leu Ala

<210> 21
<211> 27
<212> PRT
<213> Mus musculus

<400> 21
Glu Asp Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala
1 5 10 15
Leu Gln Arg Pro Leu Pro Pro Leu Pro Leu Ala
20 25

<210> 22
<211> 41
<212> PRT
<213> Mus musculus

<400> 22
Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
1 5 10 15
Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
20 25 30
Arg Ser Asn Ala Gly Arg Tyr Arg Cys
35 40

<210> 23
<211> 47
<212> PRT
<213> Mus musculus

<400> 23
Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe Val Leu Tyr Lys Glu Gly
1 5 10 15
Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys Trp Tyr Arg Ala Asn Phe
20 25 30
Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly Thr Tyr Arg Cys
35 40 45

<210> 24
<211> 1896
<212> DNA
<213> Homo sapiens

<400> 24
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tgggggagcc ccgtgaccat ctggtgtcag gggagcctgg aggccagga gtaccgactg 180
gataaagagg gaagcccaga gcccttggac agaaataacc cactggaacc caagaacaag 240
gccagattct ccatcccatc catgacagag caccatgcgg ggagataccg ctgccactat 300
tacagctctg caggctggtc agagcccagc gacccctgg agctggtgat gacaggattc 360

tacaacaaac	ccaccctctc	agccctgccc	agccctgtgg	tggcctcagg	ggggaatatg	420
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caccagctcc	ccgggaccct	ggactcacag	cagctccaca	gtgggggggt	ccaggccctg	540
ttccctgtgg	gccccgtgaa	ccccagcca	aggtggaggt	tcacatgcta	ttactattat	600
atgaacaccc	cccagggtgtg	gtcccccccc	agtgaccccc	tggagattct	gccctcaggc	660
gtgtctagga	agccctccct	cctgaccctg	cagggccctg	tcctggcccc	tgggcagagc	720
ctgaccctcc	agtgtggctc	tgatgtcggc	tacgacagat	ttgttctgta	taaggagggg	780
gaacgtgact	tcctccagcg	ccctggccag	cagccccagg	ctgggctctc	ccaggccaac	840
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aacctctcct	ccgagtggtc	ggccccccagc	gacccctga	acatcctgat	ggcaggacag	960
atctatgaca	ccgtctccct	gtcagcacag	ccggggcccca	cagtggcctc	aggagagaaac	1020
gtgaccctgc	tgtgtcagtc	atggtggcag	tttgacactt	tccttctgac	caaagaaggg	1080
gcagcccatc	ccccactgcg	tctgagatca	atgtacggag	ctcataagta	ccaggctgaa	1140
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aggtccagcc	cagctgctga	cgtccaggaa	gaaaacctct	atgctgccgt	gaaggacaca	1560
cagtctgagg	acaggggtgga	gctggacagt	cagagcccac	acgatgaaga	cccccaggca	1620
gtgacgtatg	ccccgggtgaa	acactccagt	cctaggagag	aaatggcctc	tcctccctcc	1680
tcactgtctg	gggaattcct	ggacacaaaag	gacagacagg	tggaaagagga	caggcagatg	1740
gacactgagg	ctgctgcac	tgaagcctcc	caggatgtga	cctacgcccc	gctgcacagc	1800
ttgaccctta	gacggaaggc	aactgagcct	cctccatccc	aggaagggga	acctccagct	1860
gagcccagca	tctacgccac	tctggccatc	cactag			1896

<210> 25

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> forward primer

<400> 25

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20

<210> 26

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> reverse primer

<400> 26

ccacaagcac tagagggtca

20

<210> 27

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> sense primer

<400> 27

ttctgtcttg ggctgtgtct g	21
<210> 28	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> anti-sense primer	
<400> 28	
cccgccagga ttattagat c	21
<210> 29	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
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<223> sense primer	
<400> 29	
cctgaagctg acagcattcg g	21
<210> 30	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
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<223> anti-sense primer	
<400> 30	
ctcctagagc tacctgtgga g	21
<210> 31	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> forward primer	
<400> 31	
ctgtagctgt tttcagacac acc	23
<210> 32	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> reverse primer	
<400> 32	
ccatcacctc tttctggta c	21
<210> 33	

<211> 1017
 <212> DNA
 <213> Homo sapiens

<400> 33
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 cagagtggac cgctcccca ggcctccctc caggttctgc ccagctccct ggtgcccttg 120
 gagaagccag tgacctccg gtgccaggga cctccgggcg tggacctgta ccgcctggag 180
 aagctgagtt ccagcaggta ccaggatcag gcagtcctct tcatcccggc catgaagaga 240
 agtctggctg gacgctaccg ctgctcctac cagaacggaa gcctctggtc cctgcccagc 300
 gaccagctgg agctcgttgc cacgggagtt tttgccaaac cctcgctctc agcccagccc 360
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 taccgggcta gtttcccat catcacggtg accgcccgcc acagcggaac ctaccgatgc 540
 tacagcttct ccagcaggga cccatacctg tggtcggccc ccagcgaccc cctggagctt 600
 gtggtcacag gaacctctgt gacccccagc cggttaccaa cagaaccacc ttcctcggtg 660
 gcagaattct cagaagccac cgctgaactg accgtctcat tcacaaacaa agtcttcaca 720
 actgagactt ctaggagtat caccaccagt ccaaaggagt cagactctcc agctggctct 780
 gccgcgcagt actacaccaa gggcaacctg gtccggatat gcctcggggc tgtgatccta 840
 ataatcctgg cgggggttct ggcagaggac tggcacagcc ggaggaagcg cctgcggcac 900
 aggggcaggg ctgtgcagag gccgcttccg cccctgccgc ccctcccgca gaccgggaaa 960
 tcacacgggg gtcaggatgg aggccgacag gatgttcaca gccgcggggt atgttca 1017

<210> 34
 <211> 339
 <212> PRT
 <213> Homo sapiens

<400> 34
 Met Ser Pro Ser Pro Thr Ala Leu Phe Cys Leu Gly Leu Cys Leu Gly
 1 5 10 15
 Arg Val Pro Ala Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Val
 20 25 30
 Leu Pro Ser Ser Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys
 35 40 45
 Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser
 50 55 60
 Ser Arg Tyr Gln Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg
 65 70 75 80
 Ser Leu Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp
 85 90 95
 Ser Leu Pro Ser Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala
 100 105 110
 Lys Pro Ser Leu Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly
 115 120 125
 Asp Val Thr Leu Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala
 130 135 140
 Leu Tyr Lys Glu Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp
 145 150 155 160
 Tyr Arg Ala Ser Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly
 165 170 175
 Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser
 180 185 190
 Ala Pro Ser Asp Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr
 195 200 205
 Pro Ser Arg Leu Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser
 210 215 220

Glu Ala Thr Ala Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr
 225 230 235 240
 Thr Glu Thr Ser Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser
 245 250 255
 Pro Ala Gly Pro Ala Arg Gln Tyr Tyr Thr Lys Gly Asn Leu Val Arg
 260 265 270
 Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala
 275 280 285
 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
 290 295 300
 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
 305 310 315 320
 Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly
 325 330 335
 Leu Cys Ser

<210> 35
 <211> 1017
 <212> DNA
 <213> Homo sapiens

<400> 35
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 cagagtggac cgctcccca ggcctccctc caggctctgc ccagctccct ggtgcccctg 120
 gagaagccag tgacctccg gtgccaggga cctccgggcg tggacctgta ccgcctggag 180
 aagctgagtt ccagcaggta ccaggatcag gtagtcctct tcatcccggc catgaagaga 240
 agtctggctg gacgtaccg ctgctcctac cagaacggaa gcctctggtc cctgcccagc 300
 gaccagctgg agctcgttgc cacgggagtt ttgccaac cctcgctctc agcccagccc 360
 ggcccggcgg tgctcgtcagg aggggacgta accctacagt gtcagactcg gtatggcttt 420
 gaccaatttg ctctgtacaa ggaaggggac cctgcgcctt acaagaatcc cgagagatgg 480
 taccgggcta gtttccccat catcacggtg accgccgccc acagcggaac ctaccgatgc 540
 tacagcttct ccagcaggga cccatacctg tggtcggccc ccagcgaccc cctggagctt 600
 gtggtcacag gaacctctgt gaccccagc cggttaccaa cagaaccacc ttctcgggta 660
 gcagaattct cagaagccac gcctgaactg accgtctcat tcacaaacaa agtcttcaca 720
 actgagactt ctaggagtat caccaccagt ccaaaggagt cagactctcc agctggctct 780
 gcccgccagt actacaccaa gggcaacctg gtccggatat gcctcggggc tgtgaccta 840
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 aggggcaggg ctgtgcagag gccgcttccg cccctgccgc ccctcccga gacccggaaa 960
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<210> 36
 <211> 339
 <212> PRT
 <213> Homo sapiens

<400> 36
 Met Ser Pro Ser Pro Thr Ala Leu Phe Cys Leu Gly Leu Cys Leu Gly
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 Arg Val Pro Ala Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala
 20 25 30
 Leu Pro Ser Ser Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys
 35 40 45
 Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser
 50 55 60
 Ser Arg Tyr Gln Asp Gln Val Val Leu Phe Ile Pro Ala Met Lys Arg
 65 70 75 80

<210> 38
 <211> 339
 <212> PRT
 <213> Homo sapiens

<400> 38
 Met Ser Pro Ser Pro Thr Ala Leu Phe Cys Leu Gly Leu Cys Leu Gly
 1 5 10 15
 Arg Val Pro Ala Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala
 20 25 30
 Leu Pro Ser Ser Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys
 35 40 45
 Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser
 50 55 60
 Ser Arg Tyr Gln Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg
 65 70 75 80
 Ser Leu Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp
 85 90 95
 Ser Leu Pro Ser Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala
 100 105 110
 Lys Pro Ser Leu Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly
 115 120 125
 Asp Val Thr Leu Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala
 130 135 140
 Leu Tyr Lys Glu Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp
 145 150 155 160
 Tyr Arg Ala Ser Phe Pro Ile Ile Thr Ala Thr Ala Ala His Ser Gly
 165 170 175
 Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser
 180 185 190
 Ala Pro Ser Asp Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr
 195 200 205
 Pro Ser Arg Leu Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser
 210 215 220
 Glu Ala Thr Ala Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr
 225 230 235 240
 Thr Glu Thr Ser Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser
 245 250 255
 Pro Ala Gly Pro Ala Arg Gln Tyr Tyr Thr Lys Gly Asn Leu Val Arg
 260 265 270
 Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala
 275 280 285
 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
 290 295 300
 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
 305 310 315 320
 Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly
 325 330 335
 Leu Cys Ser

<210> 39
 <211> 1017
 <212> DNA
 <213> Homo sapiens

<400> 39
 atgtctccat ccccgaccgc cctcttctgt cttgggctgt gtctggggcg tgtgccagcg

60

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cagagtggac cgctcccca ggcctccctc caggctctgc ccagctccct ggtgcccctg 120
gagaagccag tgacctccg gtgccaggga cctccgggcg tggacctgta ccgcctggag 180
aagctgagtt ccagcaggta ccaggatcag gcagtcctct tcatcccggc catgaagaga 240
agtctggctg gacgtaccg ctgctcctac cagaacggaa gcctctggtc cctgcccagc 300
gaccagctgg agctcgttgc cacgggagtt ttgccaaac cctcgctctc agcccagccc 360
ggcccggcgg tgtcgtcagg aggggacgta accctacagt gtcagactcg gtatggcttt 420
gaccaatttg ctctgtacaa ggaaggggac cctgcgccct acaagaatcc cgagagatgg 480
taccgggcta gtttcccat catcacggtg accgccgccc acagcggaac ctaccgatgc 540
tacagcttct ccagcaggga cccatacctg tggtcggtcc ccagcgaccc cctggagctt 600
gtggtcacag gaacctctgt gacccccagc cggttaccaa cagaaccacc ttcctcggtg 660
gcagaattct cagaagccac cgctgaactg accgtctcat tcacaaacaa agtcttcaca 720
actgagactt ctaggagtat caccaccagt ccaaaggagt cagactctcc agctggtcct 780
gcccgccagt actacaccaa gggcaacctg gtccggatat gcctcggggc tgtgatccta 840
ataatcctgg cgggggtttct ggcagaggac tggcacagcc ggaggaagcg cctgcggcac 900
aggggcaggg ctgtgcagag gccgcttcg cccctgccgc cctcccgcga gacccgaaaa 960
tcacacgggg gtcaggatgg aggccgacag gatgttcaca gccgcggggt atgttca 1017

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<210> 40
<211> 339
<212> PRT
<213> Homo sapiens

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<400> 40
Met Ser Pro Ser Thr Ala Leu Phe Cys Leu Gly Leu Cys Leu Gly
1 5 10 15
Arg Val Pro Ala Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln Ala
20 25 30
Leu Pro Ser Ser Leu Val Pro Leu Glu Lys Pro Val Thr Leu Arg Cys
35 40 45
Gln Gly Pro Pro Gly Val Asp Leu Tyr Arg Leu Glu Lys Leu Ser Ser
50 55 60
Ser Arg Tyr Gln Asp Gln Ala Val Leu Phe Ile Pro Ala Met Lys Arg
65 70 75 80
Ser Leu Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser Leu Trp
85 90 95
Ser Leu Pro Ser Asp Gln Leu Glu Leu Val Ala Thr Gly Val Phe Ala
100 105 110
Lys Pro Ser Leu Ser Ala Gln Pro Gly Pro Ala Val Ser Ser Gly Gly
115 120 125
Asp Val Thr Leu Gln Cys Gln Thr Arg Tyr Gly Phe Asp Gln Phe Ala
130 135 140
Leu Tyr Lys Glu Gly Asp Pro Ala Pro Tyr Lys Asn Pro Glu Arg Trp
145 150 155 160
Tyr Arg Ala Ser Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser Gly
165 170 175
Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Arg Asp Pro Tyr Leu Trp Ser
180 185 190
Val Pro Ser Asp Pro Leu Glu Leu Val Val Thr Gly Thr Ser Val Thr
195 200 205
Pro Ser Arg Leu Pro Thr Glu Pro Pro Ser Ser Val Ala Glu Phe Ser
210 215 220
Glu Ala Thr Ala Glu Leu Thr Val Ser Phe Thr Asn Lys Val Phe Thr
225 230 235 240
Thr Glu Thr Ser Arg Ser Ile Thr Thr Ser Pro Lys Glu Ser Asp Ser
245 250 255
Pro Ala Gly Pro Ala Arg Gln Tyr Tyr Thr Lys Gly Asn Leu Val Arg
260 265 270

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Ile Cys Leu Gly Ala Val Ile Leu Ile Ile Leu Ala Gly Phe Leu Ala
 275 280 285
 Glu Asp Trp His Ser Arg Arg Lys Arg Leu Arg His Arg Gly Arg Ala
 290 295 300
 Val Gln Arg Pro Leu Pro Pro Leu Pro Pro Leu Pro Gln Thr Arg Lys
 305 310 315 320
 Ser His Gly Gly Gln Asp Gly Gly Arg Gln Asp Val His Ser Arg Gly
 325 330 335
 Leu Cys Ser

<210> 41
 <211> 939
 <212> DNA
 <213> Mus musculus

<400> 41
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 acacagagtg gccactccc caagccttcc ctccaggctc agcccagttc cctggtagccc 120
 ctgggtcagt cagttattct gaggtgccag ggacctccag atgtggattt atatcgctg 180
 gagaaactga aaccggagaa gtatgaagat caagactttc tcttcattcc aaccatggaa 240
 agaagtaatg ttggacggta tcgatgctct tatcagaatg ggagtcactg gtctctccca 300
 agtgaccagc ttgagctaat tgctacaggt gtgtatgcta aaccctcact ctcagctcat 360
 cccagctcag cagtcctca aggcaggat gtgactctga agtgccagag cccatacagt 420
 tttgatgaat tcgttctata caaagaagg gatactgggc cttataagag acctgagaaa 480
 tggtagcggg ccaatttccc catcatcaca gtgactgctg ctcacagtgg gacgtaccgg 540
 tgttacagct totccagctc atctccatac ctgtgggtcag ccccgagtga ccctctagt 600
 cttgtggtta ctggactctc tgccactccc agccaggtac ccacggaaga atcatttcct 660
 gtgacagaat cctccaggag accttccatc ttaccacaaa acaaaatata tacaactgaa 720
 aagcctatga atatcactgc ctctccagag gggctgagcc ctccaattgg ttttgcctcat 780
 cagcactatg ccaaggggaa tctgggtccg atatgccttg gtgccacgat tataataatt 840
 ttgttggggc ttctagcaga ggattggcac agtcggaaga aatgcctgca acacaggatg 900
 agagctttgc aaaggccact accaccctc ccactggcc 939

<210> 42
 <211> 313
 <212> PRT
 <213> Mus musculus

<400> 42
 Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu
 1 5 10 15
 Gln Val Ile Gln Thr Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln
 20 25 30
 Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg
 35 40 45
 Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
 50 55 60
 Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
 65 70 75 80
 Arg Ser Asn Val Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His
 85 90 95
 Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr
 100 105 110
 Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly
 115 120 125
 Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe
 130 135 140

Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys
145 150 155 160
Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser
165 170 175
Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Pro Tyr Leu Trp
180 185 190
Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
195 200 205
Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
210 215 220
Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
225 230 235 240
Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
245 250 255
Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys
260 265 270
Leu Gly Ala Thr Ile Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp
275 280 285
Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln
290 295 300
Arg Pro Leu Pro Pro Leu Pro Leu Ala
305 310

<210> 43
<211> 939
<212> DNA
<213> Mus musculus

<400> 43
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ctgggtcagt cagttattct gaggtgccag ggacctccag atgtggattt atatcgctg 180
gagaaactga aaccggagaa gtatgaagat caagactttc tcttcattcc aaccatggaa 240
agaagtaatg ctggacggta tcgatgctct tatcagaatg ggagtcactg gtctctccca 300
agtgaccagc ttgagctaata tgctacaggt gtgtatgcta aaccctcact ctcagctcat 360
cccagctcag cagtcctcca aggcagggat gtgactctga agtgccagag cccatacagt 420
tttgatgaat tcgttctata caaagaaggg gatactgggc cttataagag acctgagaaa 480
tggtaccggg tcaatttccc catcatcaca gtgactgctg ctcacagtgg gacgtaccgg 540
tgttacagct tctccagctc atctccatac ctgtggtcag ccccgagtga cctctagt 600
cttgtgggta ctggactctc tgccactccc agccagggtac ccacggaaga atcatttctc 660
gtgacagaat cctccaggag accttccatc ttaccacaaa acaaaatata tacaactgaa 720
aagcctatga atatcactgc ctctccagag gggctgagcc ctccaattgg ttttgctcat 780
cagcactatg ccaaggggaa tctggtccgg atatgccttg gtgccacgat tataataatt 840
ttgttggggc ttctagcaga ggattggcac agtcggaaga aatgcctgca acacaggatg 900
agagctttgc aaaggccact accaccctc cactggcc 939

<210> 44
<211> 313
<212> PRT
<213> Mus musculus

<400> 44
Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu
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Gln Val Ile Gln Thr Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln
20 25 30
Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg
35 40 45

Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
 50 55 60
 Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
 65 70 75 80
 Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His
 85 90 95
 Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr
 100 105 110
 Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly
 115 120 125
 Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe
 130 135 140
 Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys
 145 150 155 160
 Trp Tyr Arg Val Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser
 165 170 175
 Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Ser Pro Tyr Leu Trp
 180 185 190
 Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
 195 200 205
 Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
 210 215 220
 Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
 225 230 235 240
 Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
 245 250 255
 Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys
 260 265 270
 Leu Gly Ala Thr Ile Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp
 275 280 285
 Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln
 290 295 300
 Arg Pro Leu Pro Pro Leu Pro Leu Ala
 305 310

<210> 45
 <211> 939
 <212> DNA
 <213> Mus musculus

<400> 45
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 ctgggtcagt cagttattct gaggtgccag ggacctccag atgtggattt atatcgctg 180
 gagaaactga aaccggagaa gtatgaagat caagactttc tcttcattcc aaccatggaa 240
 agaagtaatg ctggacggta tcatgctct tatcagaatg ggagtcactg gtctctccca 300
 agtgaccagc ttgagctaat tgctacaggt gtgtatgcta aaccctcact ctgagctcat 360
 cccagctcag cagccccctca aggagggat gtgactctga agtgccagag cccatacagt 420
 tttgatgaat tcgtttctata caaagaagg gatactgggc cttataagag acctgagaaa 480
 tggtagcggg ccaatttccc catcatcaca gtgactgctg ctacacagtg gacgtaccgg 540
 tggtacagct tctccagctc atctccatac ctgtgggtcag ccccgagtga ccctctagt 600
 cttgtgggta ctggactctc tgccactccc agccaggtac ccacggaaga atcatttct 660
 gtgacagaat cctccaggag accttccatc ttaccacaa acaaaatata tacaactgaa 720
 aagcctatga atatcactgc ctctccagag gggctgagcc ctccaattgg ttttgctcat 780
 cagcactatg ccaaggggaa tctgggtccg atatgccttg gtgccacgat tataataatt 840
 ttgttggggc ttctagcaga ggattggcac agtcggaaga aatgcctgca acacaggatg 900
 agagctttgc aaaggccact accaccctc ccactggcc 939

<210> 46
 <211> 313
 <212> PRT
 <213> Mus musculus

<400> 46
 Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu
 1 5 10 15
 Gln Val Ile Gln Thr Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln
 20 25 30
 Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg
 35 40 45
 Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
 50 55 60
 Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
 65 70 75 80
 Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His
 85 90 95
 Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr
 100 105 110
 Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Ala Pro Gln Gly
 115 120 125
 Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe
 130 135 140
 Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys
 145 150 155 160
 Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser
 165 170 175
 Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Ser Pro Tyr Leu Trp
 180 185 190
 Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
 195 200 205
 Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
 210 215 220
 Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
 225 230 235 240
 Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
 245 250 255
 Gly Phe Ala His Gln His Tyr Ala Lys Gly Asn Leu Val Arg Ile Cys
 260 265 270
 Leu Gly Ala Thr Ile Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp
 275 280 285
 Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln
 290 295 300
 Arg Pro Leu Pro Pro Leu Pro Leu Ala
 305 310

<210> 47
 <211> 939
 <212> DNA
 <213> Mus musculus

<400> 47
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 acacagagtg gccactccc caagccttcc ctccaggctc agcccagttc cctggtaccc 120
 ctgggtcagt cagttattct gaggtgccag ggacctccag atgtggattt atatcgctg 180
 gagaaactga aaccggagaa gtatgaagat caagactttc tcttcattcc aaccatggaa 240
 agaagtaatg ctggacggta tcgatgctct tatcagaatg ggagtcactg gtctctccca 300

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agtgaccagc ttgagctaata tgctacaggt gtgtatgcta aaccctcact ctcagctcat 360
cccagctcag cagtcctca aggcagggat gtgactctga agtgccagag cccatacagt 420
tttgatgaat tcgttctata caaagaaggg gatactgggc cttataagag acctgagaaa 480
tggtaccggg ccaatttccc catcatcaca gtgactgctg ctcacagtgg gacgtaccgg 540
tgttacagct tctccagctc atctccatac ctgtgggtcag ccccgagtga cctctagtg 600
cttgtgggta ctggactctc tgccactccc agccagggtac ccacggaaga atcatttcct 660
gtgacagaat cctccaggag accttccatc ttaccacaaa acaaaatata tacaactgaa 720
aagcctatga atatcactgc ctctccagag gggctgagcc ctccaattgg ttttgctcat 780
cagcactatg tcaaggggaa tctgggtccg atatgccttg gtgccacgat tataataatt 840
ttgttggggc ttctagcaga ggattggcac agtcggaaga aatgcctgca acacaggatg 900
agagctttgc aaaggccact accacccctc ccactggcc 939

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<210> 48

<211> 313

<212> PRT

<213> Mus musculus

<400> 48

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Met Ser Pro Ala Ser Pro Thr Phe Phe Cys Ile Gly Leu Cys Val Leu
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Gln Val Ile Gln Thr Gln Ser Gly Pro Leu Pro Lys Pro Ser Leu Gln
20 25 30
Ala Gln Pro Ser Ser Leu Val Pro Leu Gly Gln Ser Val Ile Leu Arg
35 40 45
Cys Gln Gly Pro Pro Asp Val Asp Leu Tyr Arg Leu Glu Lys Leu Lys
50 55 60
Pro Glu Lys Tyr Glu Asp Gln Asp Phe Leu Phe Ile Pro Thr Met Glu
65 70 75 80
Arg Ser Asn Ala Gly Arg Tyr Arg Cys Ser Tyr Gln Asn Gly Ser His
85 90 95
Trp Ser Leu Pro Ser Asp Gln Leu Glu Leu Ile Ala Thr Gly Val Tyr
100 105 110
Ala Lys Pro Ser Leu Ser Ala His Pro Ser Ser Ala Val Pro Gln Gly
115 120 125
Arg Asp Val Thr Leu Lys Cys Gln Ser Pro Tyr Ser Phe Asp Glu Phe
130 135 140
Val Leu Tyr Lys Glu Gly Asp Thr Gly Pro Tyr Lys Arg Pro Glu Lys
145 150 155 160
Trp Tyr Arg Ala Asn Phe Pro Ile Ile Thr Val Thr Ala Ala His Ser
165 170 175
Gly Thr Tyr Arg Cys Tyr Ser Phe Ser Ser Ser Ser Pro Tyr Leu Trp
180 185 190
Ser Ala Pro Ser Asp Pro Leu Val Leu Val Val Thr Gly Leu Ser Ala
195 200 205
Thr Pro Ser Gln Val Pro Thr Glu Glu Ser Phe Pro Val Thr Glu Ser
210 215 220
Ser Arg Arg Pro Ser Ile Leu Pro Thr Asn Lys Ile Ser Thr Thr Glu
225 230 235 240
Lys Pro Met Asn Ile Thr Ala Ser Pro Glu Gly Leu Ser Pro Pro Ile
245 250 255
Gly Phe Ala His Gln His Tyr Val Lys Gly Asn Leu Val Arg Ile Cys
260 265 270
Leu Gly Ala Thr Ile Ile Ile Ile Leu Leu Gly Leu Leu Ala Glu Asp
275 280 285
Trp His Ser Arg Lys Lys Cys Leu Gln His Arg Met Arg Ala Leu Gln
290 295 300
Arg Pro Leu Pro Pro Leu Pro Leu Ala
305 310

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<210> 49
 <211> 5
 <212> PRT
 <213> Homo sapiens

<400> 49
 Ser Tyr Trp Ile Ser
 1 5

<210> 50
 <211> 17
 <212> PRT
 <213> Homo sapiens

<400> 50
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 1 5 10 15
 Gly

<210> 51
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 51
 His Gly Ser Asp Arg Gly Trp Gly Phe Asp Pro
 1 5 10

<210> 52
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 52
 Asn Gly Val Asn Ser Asp Val Gly Tyr Tyr Asn Pro Val Ser
 1 5 10

<210> 53
 <211> 7
 <212> PRT
 <213> Homo sapiens

<400> 53
 Glu Val Asn Lys Arg Pro Ser
 1 5

<210> 54
 <211> 9
 <212> PRT
 <213> Homo sapiens

<400> 54
 Ser Tyr Thr Ser Asn Asn Thr Pro Val
 1 5

<210> 55
 <211> 5

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      <212> PRT
      <213> Homo sapiens

      <400> 55
Ser Tyr Ser Met Asn
 1               5

      <210> 56
      <211> 17
      <212> PRT
      <213> Homo sapiens

      <400> 56
Ser Ile Ser Ser Ser Gly Arg Tyr Ile Ser Tyr Gly Asp Ser Val Lys
 1               5               10               15
Gly

      <210> 57
      <211> 8
      <212> PRT
      <213> Homo sapiens

      <400> 57
Asp Ile Ser Ser Ala Met Asp Val
 1               5

      <210> 58
      <211> 13
      <212> PRT
      <213> Homo sapiens

      <400> 58
Thr Arg Gly Gly Asn Asn Ile Gly Ser Lys Ser Val His
 1               5               10

      <210> 59
      <211> 7
      <212> PRT
      <213> Homo sapiens

      <400> 59
Asp Asp Ser Asp Arg Pro Ser
 1               5

      <210> 60
      <211> 10
      <212> PRT
      <213> Homo sapiens

      <400> 60
Val Trp Asp Ser Ser Ser Asp His His Val
 1               5               10

      <210> 61
      <211> 5
      <212> PRT
      <213> Homo sapiens

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<400> 61
Ser Tyr Trp Met Ser
1 5

<210> 62
<211> 17
<212> PRT
<213> Homo sapiens

<400> 62
Asn Ile Lys Gln Asp Gly Ser Glu Lys Tyr Tyr Ala Asp Ser Val Arg
1 5 10 15
Gly

<210> 63
<211> 14
<212> PRT
<213> Homo sapiens

<400> 63
Asp Lys Trp Glu Ala Tyr Ile Thr Pro Gly Ala Phe Asp Val
1 5 10

<210> 64
<211> 13
<212> PRT
<213> Homo sapiens

<400> 64
Thr Arg Ser Ser Gly Ser Ile Ala Ser Asn Tyr Val Gln
1 5 10

<210> 65
<211> 7
<212> PRT
<213> Homo sapiens

<400> 65
Glu Asp Asn Gln Arg Pro Ser
1 5

<210> 66
<211> 8
<212> PRT
<213> Homo sapiens

<400> 66
Ser Tyr Asp Ser Ser Asn Val Val
1 5

<210> 67
<211> 5
<212> PRT
<213> Homo sapiens

<400> 67

Asn Tyr Glu Met Asn
1 5

<210> 68
<211> 17
<212> PRT
<213> Homo sapiens

<400> 68

Tyr Ile Ser Ser Ser Gly Ser Thr Ile His Asn Ala Asp Ser Val Lys
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Gly

<210> 69
<211> 12
<212> PRT
<213> Homo sapiens

<400> 69

Asp Gly Tyr Ser His Gly Leu Asp Ala Phe Asp Ile
1 5 10

<210> 70
<211> 13
<212> PRT
<213> Homo sapiens

<400> 70

Ser Gly Ser Ser Ser Asn Ile Gly Ser Asn Thr Val His
1 5 10

<210> 71
<211> 7
<212> PRT
<213> Homo sapiens

<400> 71

Ser Tyr Asn Gln Arg Pro Ser
1 5

<210> 72
<211> 10
<212> PRT
<213> Homo sapiens

<400> 72

Ser Trp Asp Asp Arg Leu Asn Gly Tyr Leu
1 5 10

<210> 73
<211> 5
<212> PRT
<213> Homo sapiens

<400> 73

Asp Tyr Gly Met Ser
1 5

<210> 74
<211> 9
<212> PRT
<213> Homo sapiens

<400> 74
Thr Gly Tyr Ala Asp Ser Val Lys Gly
1 5

<210> 75
<211> 12
<212> PRT
<213> Homo sapiens

<400> 75
Asp Gln Tyr Ser Ser Gly Arg Asp Ala Phe Asp Ile
1 5 10

<210> 76
<211> 14
<212> PRT
<213> Homo sapiens

<400> 76
Thr Gly Ser Ser Ser Asp Val Gly Gly Tyr Asn Tyr Val Ser
1 5 10

<210> 77
<211> 7
<212> PRT
<213> Homo sapiens

<400> 77
Glu Val Ser Arg Asn Pro Ser
1 5

<210> 78
<211> 11
<212> PRT
<213> Homo sapiens

<400> 78
Ser Tyr Thr Ser Ser Ser Tyr Pro Gly Val Val
1 5 10